

***Contractor Support to the
Tactical Unmanned Aerial Vehicle (TUAV)
Initial Operational Test (IOT)***

(ACAT II - OSD Oversight)

April – May 2002

Ft. Hood, TX

Agenda

Purpose of Test

Contract Support

System Description

Test Execution

Test Plan Overview

Lessons Learned

Test Purpose

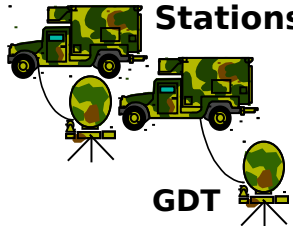
The purpose of the IOT was to provide data on the Shadow 200 system to support the evaluation of the effectiveness, survivability, and suitability of a production-representative Block I system under realistic operational conditions. Data was used to support a system evaluation for a Milestone III decision.



System Description

The TUAV is the maneuver brigade commander's system.

Ground Control Stations



GDT

Air Vehicles w/Payloads



x 3

Portable Ground Control Station Data Terminal

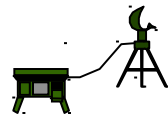


x 1

Personnel/Equipment Transport & Trailer



Air Vehicle Transport & Launch Trailer



x 4

Remote Video Terminal and Antenna



Personnel

- 1 x 35D (Platoon Leader)
- 1 x 350U (UAV Warrant Officer)
- 1 x 96U (Platoon Sergeant)
- 12 x 96U (Air Vehicle Operators)



Maintenance Section

- 4 x 33W (IEW System Repairer)
- 3 x 52D (Engine Mechanic)



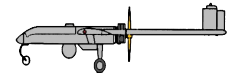
X 1

Personnel/Equipment Transport

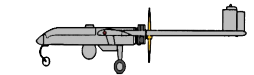
Divisional Mobile Maintenance Facility



4 x Contractors



DMMF Spare AV



X 1 Spare AV

Test Team Organization

- TOTAL PERSONNEL 214
 - IEWTD
 - OTC
 - CONTRACTOR
 - USAOC&S
 - TRADOC
 - ATSA

Test Team Functions

- Test Officer Cell
- Engineering
 - ORSA
 - Database Management
 - Performance Data Collection
- Simulation
- Threat
- Instrumentation
 - MAIS
 - Video Reduction
- RAM
 - Data Collection

Test Plan Overview

Test Unit:

- Brigade Combat Team
- MI Battalion with MI ACT and TUAV Platoon

Test Dates:

- Pilot Test – April 2002 – 2 days
- Record Test April - May 2002 – 23 days
(May 2002 for WX/system down contingencies)

Test Location: Ft. Hood, TX

- Land Groups: 3B, 4, 6
- Airspace A1/A2/A3
- St. Elijah and Hargrove MOUT Sites
- Launch/Recovery Site in 42C

Phase I & II

- **Phase I Test Team driven** Assisted by a Division White Cell April 2002
 - Execute **OMS/MP** (12 continuous hrs, 18/24, 18/24, 18/24, 8/24)
 - Focus on **recognition given detection** of 30 tracked and 60 white vehicles
 - **BDE TOC** (CDR, S2, 3, 6, MI ACT and FSE)
 - A **Division White Cell** ----- Drive R&S Plan/FRAGO for tasking
 - Focus on the ability of the TUAV system to **provide a useful product** to the BDE CDR/S-2
 - Live **adjustment of fires** (64 Rounds)
 - MOPP IV evaluation. (2hrs)
- **Phase II Free play** April - May 2002 (5 calendar days)
 - CPX environment w/a **fully operational TOC**
 - **Division White Cell**
 - BNs using **Janus/EADSIM/ETSIU** as a simulation driver
 - Examine capability to **satisfy the BDE CDR's intelligence requirements**
 - Balkans 1.0 scenario developed by TRAC Leavenworth based on Joint Support Operations (SASO) approved by DA DCSINT.

Resources

- **DIV TOC (-)/White Cell** - G2, G3 (0-4) Rep., A2C2,+ 5 Puckers for ABCS (MCS, ASAS, AFATDS, & AMDWS)
- **BDE TOC** - Phase I - CDR, S2, S3, S6, MI ACT and FSE.
Phase II - Full BDE TOC.
 - * CDR provides written report to Test Team on system effectiveness and suitability
- **TUAV PLT** - 22 x Personnel and 1 x Shadow 200 System
- **ENG BN** - 30 x M113s w/ MAIS (for Time Space Position Info)
- **FA** - 1 x Firing Battery of M109A6s, FIST
- **Janus/EADSIM/ETSIU** - Simulation and Stimulation for Phase II
- **BN Work Cells** to provide bottom up feeds to the BDE TOC ABCS boxes required (2 x MCS; 1x ASAS and 1x AFATDS)
- **Contractor** - 60 x CUCVs w/ MAIS (for Time Space Position Info)
- **Gov't Agency** - 1 x SA-8, 2 x SA-9s, 5 x SA-18s, 1 x G-75 TAR)

Data Collection

Objectives

Focus on performance data collection on task and report

Assess the value added to the maneuver command RAM

Survivability

Data collection nodes & focus

BDE TOC (Focus on performance primarily)

MI ACT, TUAV GCS, Battle Staff

L/R sites (Focus on RAM primarily)

TUAV GCS, PGCS, Maintenance Section

DMMF located at FTC (RAM)

Automation / Instrumentation / Simulation

Automation

- RAM 2000
- Performance database

Instrumentation

- Ground truth information (MAIS)
- AIEWTS for AVO / MPO / Payload / Shelter
- DAS van for telemetry
- TOC and L/R video

Simulation

- Simulated Information (Janus)
- ETSIU
- EADISM

TSC Support for Test Contract Support

- RGB Video/Audio data capture at both Ground Control Sites (Tactical Operations Center & Launch/Recovery Site)
 - Video and audio recordings of both operator positions
 - Air Vehicle Operator and Mission Payload Operator
 - NTSC Payload video recordings
 - NTSC video/audio recordings of the TOC
- Configured data reduction trailer (HMMWV) with three channels of RGB and NTSC video data reduction suites, each consisting of
 - 2 RGB video playback for AVO/MPO
 - 1 NTSC video playback for payload and TOC operators
- Provided technical support for equipment mentioned above, including troubleshooting and maintenance of the equipment.

Test Execution

Weather

- Adverse effects on TUAV system
 - ISR Delays, be flexible
 - Alternate L/R site

AARs/Hotwashes

- 2 times a day
- Focused on daily events
- End of test AAR for TUAV PLT

System Availability

- One AV mishap caused the test to be delayed

Safety

- No ground/test incidents

Land / Airspace Coordination

- Constant re-coordination required